

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1-11. (cancelled).

12. (currently amended) System for monitoring the stability status of building structures made of steel, wood, reinforced concrete or other suitable material, comprising, in combination: [[,]]

a management and control station (C); thereto one or more seismic and/or vibrational sensors (S) fastened on one or more bearing structures of a building structure, of known type are said one or more sensors (S) connected to said station (C); [[,]] and

at least an acoustic and optical signaller (A) which is activated by the management station (C) itself in case said bearing structures are subjected to stresses so as to induce tensions considered dangerous, characterized in that

said sensors (S) are respectively calibrated on the band of the yielding characteristic frequencies peculiar to the bearing structure thereon they are fastened and are suitable to signal the presence of dangerous stresses, well before the structure starts really to collapse; thus obtaining that, in case

of danger, the present personnel could have the time for abandoning the structures which are going to collapse or for intervening if possible.

13. (currently amended) System according to claim 12, characterized in that wherein the signals emitted by said vibrational sensors (S) are continuously monitored by the management station (C), by means of connections of known type through wires or radio waves, in order to detect in real time the occurrence of phenomena showing the presence of structural stresses as from the initial phase thereof, during which the tensions which generate the vibratory phenomena have an extent so as not to represent a danger, but however detectable by means of appropriate seismic sensors.

14. (currently amended) System according to claim 12, characterized in that wherein the control station (C) is equipped with means for communicating with the outside and/or with a broader monitoring network including several building structures, as well as the main offices of firemen, hospitals, police and all those aid and/or security forces which have to intervene in case of emergency and danger for the safety of people or things.

15. (currently amended) System according to claim 12, characterized in that wherein said seismic sensors (S) are

constituted by inertia mechanical accelerometers and/or by piezodynamic sensors able to pick up even the oscillations of the structures and which have a known detection band.

16. (currently amended) System according to claim 12, ~~characterized in that wherein~~ both the single sensors (S) and the station (C) with the alarm signaller (A), are powered by the supply mains and/or by their own battery which guarantees them to operate even in case of power failure.

17. (currently amended) System according to claim 12, ~~characterized in that wherein~~ the vibrational sensors (S) are equipped with thermo-protective cases.

18. (currently amended) Portable device for monitoring the stability status of building structures made of steel, wood, reinforced concrete or other suitable material, comprising:

at least a seismic and/or vibrational sensor (S) ~~of known type~~, equipped with means ~~of known type~~ for the calibration thereof, and

at least an acoustic and optical signaller (A) which is activated by the sensor (S) itself in case the bearing structure itself is subjected to stresses so as to induce tensions considered dangerous,

wherein characterized in that said calibration means

are suitable to calibrate said sensors (S) on the band of the yielding characteristic frequencies peculiar to the material of the bearing structure whereon it has to be fastened, [[;]] and said device ~~being~~ is equipped with power batteries.

19. (currently amended) Portable device according to claim 17, ~~characterized in that it is equipped with further comprising~~ a container protecting against the atmospheric agents, apt to protect [[it]] against high temperatures as well, for a time sufficient to give the alarm.

20. (currently amended) System for monitoring the stability status of building structures made of steel, wood, reinforced cement or other ~~suitable~~ material, comprising, in combination: [[,]]

a management and control station (C) which filters, analyzes and processes ~~the~~ signals received by one or more seismic and/or vibrational sensors (S); ~~of known type~~, and

at least an acoustic and optical signaller (A) which is activated by the management station (C) itself in case said bearing structures are subjected to stresses so as to induce tensions considered dangerous,

~~wherein characterized in that~~ the filtering, analyzing and processing performed by said control station (C) ~~is intended for detect~~ detects any signal from the sensors (S) which belongs

to the band of the yielding characteristic frequencies peculiar to the bearing structure thereon the sensors (S) are fastened; thus obtaining that, in case of danger, the present personnel could have the time for abandoning the structures which are going to collapse or for intervening if possible.

21. (currently amended) System according to claim 20, ~~characterized in that~~ wherein in said management and control station (C) the selection of the interesting band and the filtering of the signal received by the sensors (S) take place inside the station itself by means of software or hardware processing.

22. (currently amended) System according to claim 20, ~~characterized in that~~ wherein the sensors (S) are simple microphones.

23. (currently amended) System according to claim 21, ~~characterized in that~~ wherein the sensors (S) are simple microphones.

24. (new) System of claim 12, wherein, said sensors (S) are respectively calibrated on the band of the yielding characteristic frequencies peculiar to the bearing structure for sensing and identifying a characteristic

frequency of vibratory waves emitted by the bearing structure passing from an elastic phase to plastic phase to monitor the starting of the plastic deformation.

25. (new) Device of claim 18, wherein,  
said sensor (S) is respectively calibrated on the band of the yielding characteristic frequencies peculiar to the bearing structure for sensing and identifying a characteristic frequency of vibratory waves emitted by the bearing structure passing from an elastic phase to plastic phase to monitor the starting of the plastic deformation.

26. (new) System of claim 20, comprising:  
plural of said sensors, and  
wherein said sensors (S) are respectively calibrated on the band of the yielding characteristic frequencies peculiar to the bearing structure for sensing and identifying a characteristic frequency of vibratory waves emitted by the bearing structure passing from an elastic phase to plastic phase to monitor the starting of the plastic deformation.